...living authentic, meaningful lives

citizen. career(s). academic(s). life pursuits.

Teacher Preparation Programs

What to do? New Models. Breaking Rank.

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Silent reflection (no sharing) (3-mns)

If knowledge is seen as a commodity--easily accessible, ubiquitous, contextualized and semantically organized--then what tenants should a teacher preparation program adhere to?

Teacher Empathy Map (12-mns)

1. What are characteristics of 21st century STE(A)M educators?
2. What should motivate teachers to teach and learn?
3. What supports do teachers need long-term?
4. How do we honor teachers as professionals?

1. What are characteristics of 21st century STE(A)M educators?

- Industry focused
- Passionate/Reflective/Well rounded
- Flexible and open/collaborative
- Technically literate
- Integrationist/Role model
- Organized and willing to collaborate
- Culturally aware/energetic/good listener
- Innovative and creative, and ability to self-teach

2. What should motivate teachers to teach and learn?

- Passion for the subject
- Validation of student success
- Teachers should be motivated by positive student outcomes/impact
- Knowledge of world of work
- Community and economic health
- Adaptable
- Advancement and improvement of youth and society
- Curiosity

3. What supports do teachers need long-term?

- Environment supporting innovation
- Industry support/mentoring/experts with growth and questions
- Relevant professional development
- Opportunity to experience new tech industry
- Teachers need flexibility to interact with other professionals
- Teachers need nonthreatening continuous feedback
- Leadership opportunities
- Teachers need more autonomy

4. How do we honor teachers as professionals?

- Pay equal for education level
- Need ways to advance without leaving the classroom
- Change the media culture to not put down educators
- Celebrate teacher success/community involvement
- Provide awards/trust their craft
- Honor teachers professionally
- Respect their time
- Hold to professional standards

2-minute elevator conversation (10mns)

What would you say to a possible recruit about joining the STE(A)M teaching profession?

- Allows teachers to stay current
- Allows strong industry collaboration
- You can think outside of the box
- STEAM fields have strong employability
- Connect yourself to a positive administration and school
- Continue your learning
- Become a role model
- Listen to changes and catalyst for economic development

The Fourth Industrial Revolution (0:00-5:00)

- The merger of digital, physical and biological systems
- Rethinking economic models--decoupling growth from resource constraints
- Energy grid integration
- Ecosystem health--physical, biological and human designed
- Rethinking the future of work--meshing robotics, automation, computation, AI and data science
- Funding ideas-innovation NOT necessarily more schooling

Teacherpreneurs

Partnership. Crowdfunding. Innovator

- Classroom (experts) teach students regularly
- Given time, space, and reward to spread ideas and practices
- Serve as online coaches
- Collaborate with other curriculum providers--edugame developers
- Community organizers, and policy analysts without leaving the classroom

Teacher Professional Development

Just-in-time. Intensive. Immersive. Sustained

- Focusing on three-dimensional learning--phenomenon/social phenomenon
- Engaging teachers in active learning
- Enabling collective participation of teachers (sometimes administrators)
- Coherence (aligned with other school policy, practice, community and business)
- Sufficient duration (both in intensity and contact hours)
- Activities are close to practice
- **Participants' physical and psychological comfort is taken into account**
- Teachers immersed in inquiry/design experiences and witness multiple pedagogical models
- **Curriculum materials are educative for teachers and students**

Big Challenges

- Honoring place. Honoring the "vernacular".
- Grand Challenges in Engineering (National Academies)
- United nations 2030 (17) Sustainable Development Goals
- **Every knowledge domain has identified challenges/opportunities**